

WHAT IS CLAIMED IS:

5           1.    A method of performing a determination of an item of interest in a sample using a single structure, the method comprising the steps of:

          (a)   providing a sample accessible to the single structure;

10           (b)   placing a first container for processing the sample in a first process path on the single structure;

          (c)   transferring the sample to the first container in the first process path;

          (d)   adding a reagent to the first container in the first process path;

          (e)   mixing contents of the first container in the first process path;

          (f)   separating the item of interest in the sample from the contents of the first container in the first process path;

20           (g)   transferring the separated item of interest in the sample from the first container in the first process path to a second container in a second process path on the single structure;

          (h)   bringing contents of the second container to a first temperature different from a temperature of the first process path in the second process path; and

          (i)   detecting the item of interest in the second container in the second process path.

2. A method as defined in claim 1 further comprising the step of:

(j) transferring a second sample to a second first container in the first process path;

5 (k) adding a reagent to the second first container in the first process path; and

(l) detecting the item of interest in the second first container in the first process path.

10 3. A method as defined in claim 1 further comprising the step of:

(j) sealing at least one of the first container and the second container.

15 4. A method as defined in claim 3 further comprising the step of:

(k) removing a seal from at least one of the first container and the second container.

20 5. A method as defined in claim 1 further comprising the step of:

(j) reducing exposure of contents of at least one of the first container and the second container to a contaminant.

25 6. A method as defined in claim 1 further comprising the step of:

(j) bringing contents of the second container to a second temperature different from the first temperature in the second process path.

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7. A method as defined in claim 1 further comprising the steps of:

(j) transferring a second sample to a second first container in the first process path;

5 (k) adding a reagent to the second first container in the first process path;

(l) transferring contents of the second first container to an optical flow cell on the single structure;

(m) illuminating the optical flow cell; and

10 (n) detecting the item of interest in the sample in the optical flow cell.

8. A method as defined in claim 1 wherein the second process path includes a plurality of second process sub-paths, and wherein the transferring step (g) further comprises:

15 (i) transferring the second container to at least one of the plurality of second process sub-paths.

9. A method as defined in claim 1 wherein a determination of an item of interest comprises at least one process, the method further comprising the steps of:

20 (j) discerning determinations to be performed by the single structure;

(k) sorting samples provided to the single structure by common at least one process; and

25 (l) transferring the samples to the first process path in an order determined by sorting step (k).

10. A method as defined in claim 9 further comprising the step of:

(m) allocating an element of the single structure to a given determination based on sorting step (k).

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11. A method as defined in claim 9 further comprising the step of:

(m) duplicating an element of the single structure based on sorting step (k).

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12. A method of performing a determination of an item of interest in a sample using a single structure, the method comprising the steps of:

(a) transferring a sample to a first container in a first process path on the single structure;

(b) separating an item of interest in the sample from the contents of the first container in the first process path;

(c) transferring the separated item of interest in the sample from the first container in the first process path to a second container in a second process path on the single structure;

(d) bringing contents of the second container to a first temperature different from a temperature of the first process path in the second process path; and

(e) detecting the item of interest in the second container in the second process path.

13. A method as defined in claim 12 further comprising the step of:

(f) sealing at least one of the first container and the second container.

14. A method as defined in claim 13 further comprising the step of:

(g) removing a seal from at least one of the first container and the second container.

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15. A method as defined in claim 12 further comprising the step of:

(f) reducing exposure of contents of at least one of the first container and the second container to a contaminant.

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16. A method as defined in claim 12 further comprising the step of:

(f) bringing contents of the second container to a second temperature different from the first temperature in the second process path.

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17. A method as defined in claim 12 further comprising the steps of:

(f) transferring a second sample to a second first container in the first process path;

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(g) adding a reagent to the second first container in the first process path;

(h) transferring contents of the second first container to an optical flow cell on the single structure;

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(i) illuminating the optical flow cell; and

(j) detecting the item of interest in the sample in the optical flow cell.

18. A method as defined in claim 12 wherein the second process path includes a plurality of second process sub-paths, and wherein the transferring step (c) further comprises:

(i) transferring the second container to at least one of  
5 the plurality of second process sub-paths.

19. A method of performing a determination of an item of interest in a sample using a single structure, the method comprising the steps of:

10 (a) transferring a sample to a container in a process path on the single structure;

(b) separating an item of interest in the sample from the contents of the container in the process path;

15 (c) bringing contents of the container to a first temperature in the process path;

(d) bringing contents of the container to a second temperature different from the first temperature in the process path; and

20 (e) detecting the item of interest in the container in the process path.

20. A method as defined in claim 19 further comprising the step of:

25 (f) reducing exposure of contents of the container to a contaminant.

21. A method as defined in claim 19 wherein the process path includes a plurality of sub-paths, and further comprising the step of:

30 (f) transferring the container to at least one of the plurality of sub-paths.

22. A method as defined in claim 19 wherein a determination of an item of interest comprises at least one process, the method further comprising the steps of:

(f) discerning determinations to be performed by the  
5 single structure;

(g) sorting samples provided to the single structure by common at least one process; and

(h) transferring the samples to the first process path in an order determined by sorting step (g).

10 23. A method as defined in claim 22 further comprising the step of:

(i) allocating an element of the single structure to a given determination based on sorting step (g).

15 24. A method as defined in claim 22 further comprising the step of:

(i) duplicating an element of the single structure based on sorting step (g).

25. A method of performing a determination of an item of interest in a sample using a single structure, the method comprising the steps of:

(a) transferring a sample to a first container in a first process path on the single structure;

(b) transferring the sample from the first container in the first process path to a second container in a second process path on the single structure;

(c) bringing contents of the second container to a first temperature different from a temperature of the first process path in the second process path; and

(d) detecting the item of interest in the second container in the second process path.

26. A method of performing a determination of an item of interest in a sample using a single structure, the method comprising the steps of:

(a) transferring a sample to a container in a process path on the single structure;

(b) bringing contents of the container to a first temperature on the process path on the single structure;

(c) bringing contents of the container to a second temperature different from the first temperature in the process path on the single structure; and

(d) detecting the item of interest in the container in the process path on the single structure.